

U.S. Patent Application No: 09/823,464
Page 2

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MAY 25 2007

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (previously presented) A method of fabricating a hermetic electrical feedthrough comprising:
 - providing an unfired un-sintered ceramic sheet having upper and lower surfaces;
 - forming a blind hole in said ceramic sheet extending from said upper surface toward said lower surface;
 - inserting a wire into said blind hole;
 - firing said sheet and wire to a temperature sufficient to sinter the sheet material and cause it to form a hermetic compression seal around said wire; and
 - removing sufficient sheet material from said sheet lower surface to expose said wire.
2. (original) The method of claim 1 wherein said ceramic sheet is formed of material comprised of at least 99% aluminum oxide.
3. (original) The method of claim 1 wherein said ceramic sheet after said firing and material removal steps is less than 40 mils thick.
4. (original) The method of claim 1 wherein said ceramic sheet after said firing and material removal steps is less than 15 mils thick.
5. (original) The method of claim 1 wherein said wire is formed platinum.
6. (original) The method of claim 1 wherein said wire has a diameter of less than 20 mils.
7. (original) The method of claim 1 wherein said wire has a diameter of less than 10 mils.

U.S. Patent Application No: 09/823,464
Page 3

8. (currently amended) A method of forming multiple hermetic electrical feedthroughs comprising the sequential steps of:

forming multiple blind holes in an unfired sheet of ceramic material, each hole extending from an upper sheet surface to a hole floor spaced from the lower surface of said sheet;

inserting a wire into each hole so that the lower end of each wire is supported on a hole floor;

firing said sheet and wires to sinter and shrink said ceramic material to form a hermetic compression seal around each wire; and

removing ceramic material from said sheet lower surface to said hole floors to expose the lower ends of said wires.

9. (original) The method of claim 8 including a further step of lapping a sheet surface so that the ends of said wires are flush with the surface.

10. (original) The method of claim 8 including a further step of dicing said sheet to form multiple dies each including multiple hermetic electrical feedthroughs.

11. (original) The method of claim 8 wherein said ceramic material is from the group comprised of aluminum oxide and zirconia.

12. (original) The method of claim 8 wherein said ceramic material comprises at least 99% aluminum oxide.

13. (original) The method of claim 8 wherein each of said wires is formed of a material from the group including platinum, titanium, gold, palladium, tantalum, niobium.

14. (original) The method of claim 8 wherein said wires are formed of substantially pure platinum.

U.S. Patent Application No: 09/823,464
Page 4

15. (original) The method of claim 8 wherein said sheet after lapping has a thickness of less than 15 mils.

16. (original) The method of claim 8 wherein at least some of said wires have a diameter of less than 10 mils.

17. (original) The method of claim 8 wherein said firing step includes subjecting said sheet to a temperature sufficient to sinter the ceramic material.

18. - 36. (canceled)

37. (new) A method of fabricating a hermetic electrical feedthrough comprising:

providing an unsintered ceramic sheet having upper and lower surfaces;

forming one or more blind holes in said ceramic sheet extending from said upper surface toward said lower surface;

inserting a wire in each of said one or more blind holes;

firing said sheet and wire to a temperature sufficient to sinter the sheet material and cause it to form a hermetic compression seal around said wire; and

removing sufficient sheet material from said sheet lower surface to expose said wire,

wherein said firing occurs by ramping up to a first temperature at a first heating rate; then ramping up to a second temperature higher than the first temperature at a second heating rate different from the first heating rate.

38. (new) The method of claim 37, wherein the first temperature is 600 °C, the second temperature is 1600 °C, the first heating rate is 1 °C/minute and the second heating rate is 5 °C/minute.

39. (new) The method of claim 37, wherein said heating is followed by a dwell interval and a cool-to-room-temperature interval.

U.S. Patent Application No: 09/823,464
Page 5

40. (new) The method of claim 37, wherein said wire is a platinum wire.

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